

Claims

1. An aluminum flake comprising
(A1) a layer consisting of SiO_2 ,
- 5 (B) a layer consisting of aluminum on the layer (A1) and
(A2) a layer consisting of SiO_2 on the layer (B), wherein
 $0.70 \leq z \leq 2.0$.
2. An aluminum flake according to claim 1, comprising
(C1) a layer consisting of SiO_2 ,
(A1) a layer consisting of SiO_y on the layer (C1),
(B) a layer consisting of aluminum on the layer (A1),
(A2) a layer consisting of SiO_y on the layer (B) and
(C2) a layer consisting of SiO_2 on the layer (A2), wherein
15 $0.95 \leq y \leq 2.0$.
3. An aluminum flake comprising
(D1) a layer consisting of SiO_2 ,
(B) a layer consisting of aluminum on the layer (D1) and
20 (D2) a layer consisting of SiO_2 on the layer (B), wherein the layer thickness of the SiO_2 layer is from 200 to 500 nm, especially 200 to 350 nm.
4. An aluminum flake according to any one of claims 1 to 3, wherein the layer thickness of
25 the layer (B) consisting of aluminum is from 10 to 100 nm, preferably from 30 to 50 nm.
5. An aluminum flake according to claim 1 or 2, wherein the layer thickness of the layers
(A1) and (A2) consisting of SiO_2 , the layer thickness of the layers (D1) and (D2) con-
30 sisting of SiO_2 , the layer thickness of the layer (A1) consisting of SiO_y and of the layer
(C1) consisting of SiO_2 and the layer thickness of the layer (A2) consisting of SiO_y and
35 of the layer (C2) consisting of SiO_2 is from 200 to 350 nm, preferably from 250 to
300 nm.
6. A pigment based on the aluminum flakes according to any one of claims 1, 2, 3, 4 and
35 5, comprising on the layers (A1) and (A2) or on the layers (C1) and (C2) or on the
layers (D1) and (D2) or over the entire surface of the aluminum flakes a layer (E)

consisting of a dielectric material having a "high" refractive index, especially TiO_2 , or carbon, preferably diamond-like carbon.

7. A pigment based on the aluminum flakes according to any one of claims 1, 2, 3, 4 and 5, comprising over the entire surface of the aluminum flakes a layer (F) consisting of from 50 to 95 % by weight carbon, from 5 to 25 % by weight nitrogen and from 0 to 25 % by weight of the elements hydrogen, oxygen and/or sulfur, the percentage by weight data relating to the total weight of the layer (F).
- 10 8. A pigment according to any one of claims 6, or 7, wherein the layer thickness of the layer (E) or (F) is from 10 to 150 nm, preferably from 30 to 70 nm.
9. The use of the aluminum flakes according to any one of claims 1 to 5 in paints, electrostatic coatings, in ink-jet printing, cosmetics, coatings, printing inks, plastics 15 materials, in glazes for ceramics and glass, and in security printing, or the use of the pigments according to claims 6, 7 or 8 in paints, in ink-jet printing, cosmetics, coatings, printing inks, plastics materials, in glazes for ceramics and glass, and in security printing.
- 20 10. A composition comprising an aluminum flake according to any one of claims 1 to 5 or a pigment according to claim 6, 7 or 8.